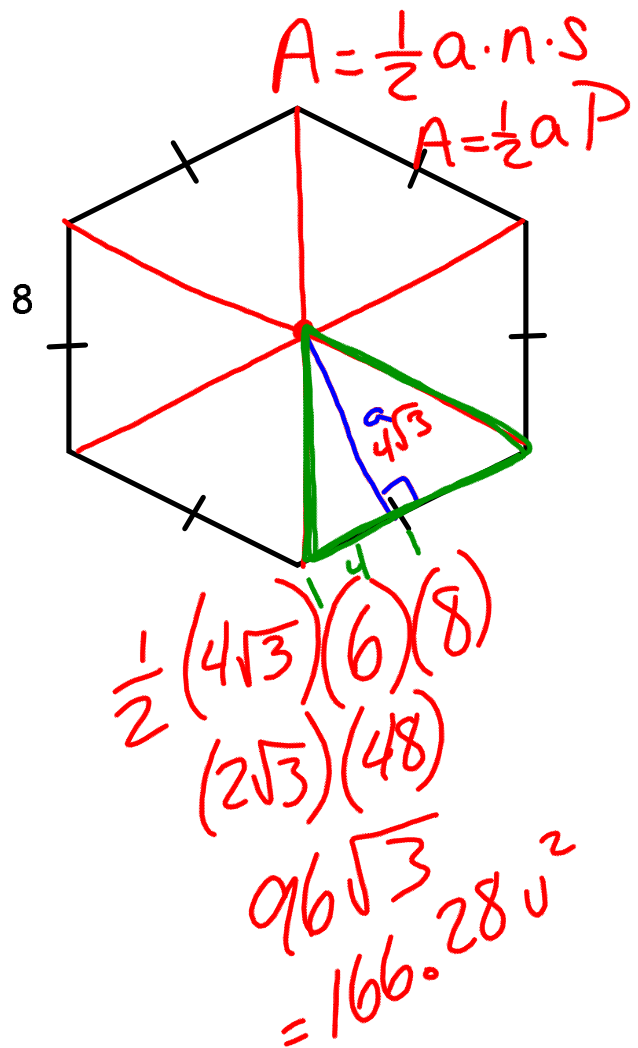
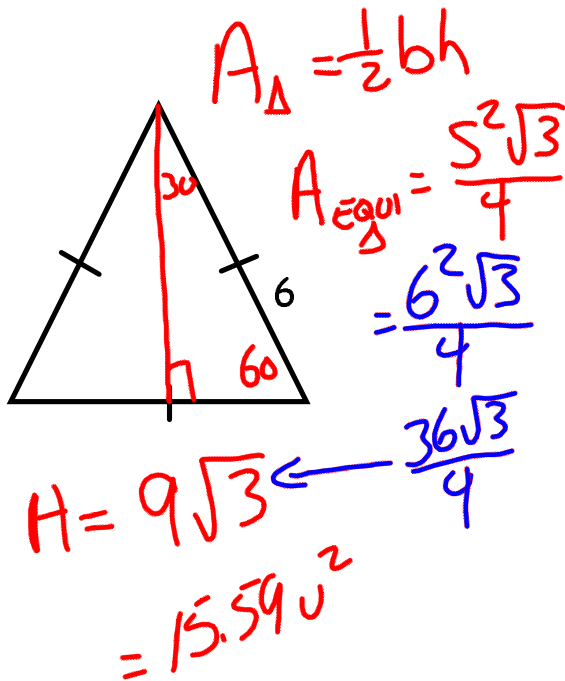


04/08/14 Agenda:

- Review Homework
 - Worksheet 6 - Area of Regular Polygons
- Section 11.4 & 11.5 - Area & Circumference of Circles
- Homework
 - Worksheet 7 - Area & Circumference of Circles

Warm Up - Get Your Homework Out!

Find the area of the figures:



Section 11.4 & 11.5 - Area & Circumference of Circles

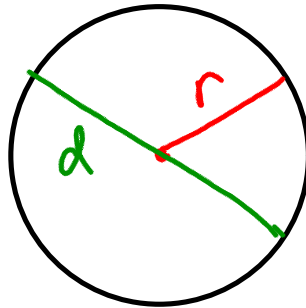
Target 11I

April 8, 2014

Goal: Find the Area & Circumference of a Circle.

Vocabulary:

$$\pi = 3.14$$



$$d = 2r$$

Radius (r) of a Circle:

The distance from the center of the circle to the side.

Diameter (d) of a Circle:

The distance across the circle going through the center. It is equal to 2 times the radius (r).

Circumference of a Circle:

The distance around the circle (perimeter). This is found by multiplying 2 times the radius (r) by pi (π), or by multiplying the diameter (d) of the circle by pi (π).

$$\text{Circumference} = 2\pi r \text{ or } \pi d$$

Area of a Circle:

The area of a circle is pi (π) times the radius (r) squared.

$$A_{\text{Circle}} = \pi r^2$$

Section 11.4 & 11.5 - Area & Circumference of Circles

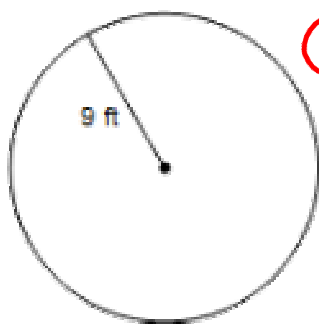
Target 11I

April 8, 2014

Circumference = $2\pi r$ or πd

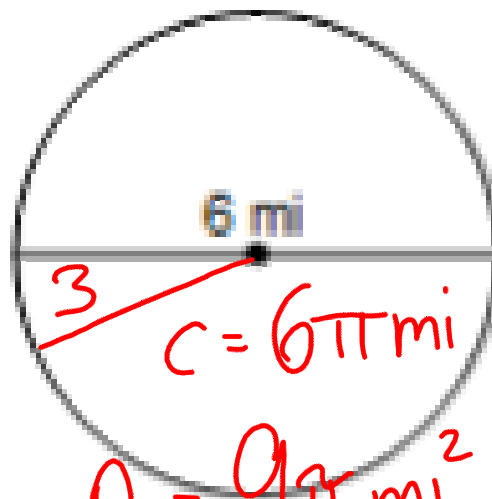
$A_{\text{Circle}} = \pi r^2$

Find the area & circumference, leave your answers in terms of π :



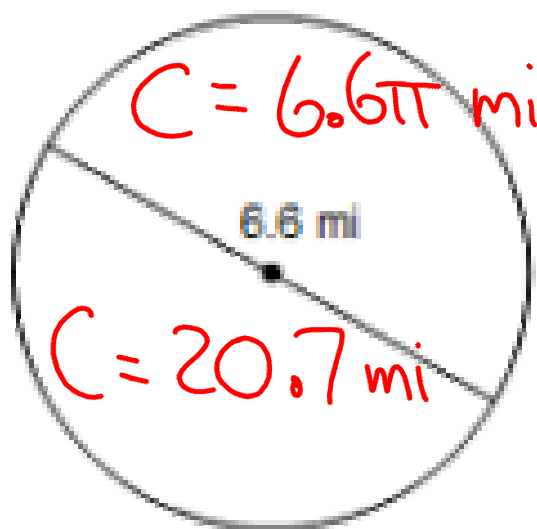
$$\begin{aligned} C &= 2\pi r \\ &= 2\pi \cdot 9 \\ &= 18\pi \text{ ft} \end{aligned}$$

$$A = \pi r^2 = \pi 9^2 = 81\pi \text{ ft}^2$$



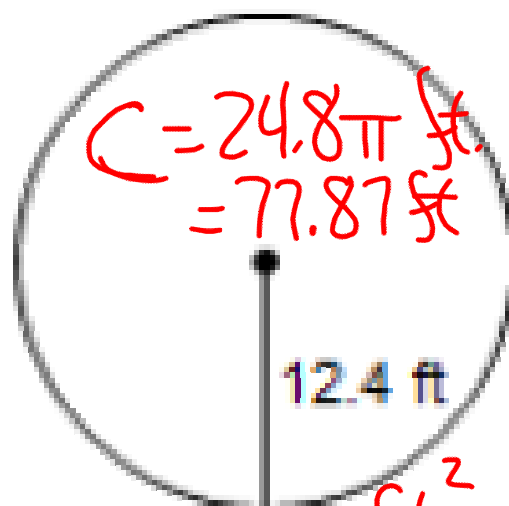
$$C = 6\pi \text{ mi}$$

$$A = 9\pi \text{ mi}^2$$



$$C = 6.6\pi \text{ mi}$$

$$C = 20.7 \text{ mi}$$



$$\begin{aligned} C &= 24.8\pi \text{ ft} \\ &= 77.87 \text{ ft} \end{aligned}$$

$$\begin{aligned} A &= 487.8 \text{ ft}^2 \\ &= 153.76\pi \text{ ft}^2 \end{aligned}$$

Section 11.4 & 11.5 - Area & Circumference of Circles

Target 11I

April 8, 2014

$$\text{Circumference} = 2\pi r \text{ or } \pi d$$

$$A_{\text{Circle}} = \pi r^2$$

The area of a circle is $25\pi \text{ ft}^2$. Find the radius.

$$A = \pi r^2 \quad \frac{25\pi = \pi r^2}{\pi} \quad r = 5 \text{ ft}$$

$$\sqrt{25} = \sqrt{r^2}$$

The area of a circle is $49\pi \text{ in}^2$. Find the diameter.

$$49\pi = \pi r^2 \quad \underline{\quad\quad\quad} \quad d = 14 \text{ in.}$$

$$49 = r^2 \quad r = 7$$

The circumference of a circle is $38\pi \text{ in}$. Find the radius and the area.

Rounded to the nearest tenth, find the radius of a circle whose circumference 36 feet.

$$3.14 \quad C = 2\pi r$$

$$36 = 2(3.14)r$$

$$\frac{36}{6.28} = \frac{6.28r}{6.28} \quad r = 5.73 \text{ ft.}$$

Unit 10 - Summary

Review/Summary:

Perimeter: The total distance around an object.

Area: The total number of square units inside an object.

$$A_{\text{Square}} = s^2 \text{ or } b \cdot h$$

$$A_{\text{Triangle}} = \frac{1}{2} \cdot b \cdot h$$

$$A_{\text{Parallelogram}} = b \cdot h$$

$$A_{\text{Equilateral Triangle}} = \frac{s^2 \sqrt{3}}{4}$$

$$A_{\text{Rectangle}} = b \cdot h$$

$$A_{\text{Kite}} = \frac{1}{2} \cdot d_1 \cdot d_2$$

$$A_{\text{Trapezoid}} = \frac{1}{2} \cdot h \cdot (b_1 + b_2)$$

$$A_{\text{Rhombus}} = \frac{1}{2} \cdot d_1 \cdot d_2 \text{ or } b \cdot h$$

$$A_{\text{Regular Polygon}} = \frac{1}{2} aP, \text{ or } = \frac{1}{2} a \cdot ns$$

$$\text{Circumference} = 2\pi r \text{ or } \pi d$$

$$A_{\text{Circle}} = \pi r^2$$

